ANSI-ASC C63

ANSI C63.19-2001

–

AMERICAN NATIONAL STANDARD FOR METHODS OF MEASUREMENT OF COMPATIBILITY BETWEEN WIRELESS COMMUNICATION DEVICES AND HEARING AIDS

April - 2003

ANSI-ASC C63

- ANSI – American National Standards Institute
- ASC – Accredited Standards Committee
- C63 – Electromagnetic Compatibility (EMC) Committee
- Dr. Ralph Showers – Chairman – C63

ANSI-ASC C63

- Brief History of C63
  - Committee originated in the 1930s
  - First standard was C63.1 – RFI Meters and Testing
  - The committee has developed over 20 standards; many of which are periodically revised and in use today
  - Committee has “balanced” membership

ANSI-ASC C63

- Most well-known standard today is:
  - C63.4 – Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
  - Cited by the FCC in its rules
  - Used to measure FCC-Part 15 Equipment among other devices

ANSI-ASC C63 - C63.19

- C63.19
  - Working Group was formed to look at this area of interest in 1996
  - Working Group was assigned to Subcommittee 8 – EMC and Medical Devices
  - Co-Chairs – Tom Victorian (Starkey) and Stephen Berger (Siemens)

ANSI-ASC C63 - C63.19

- Working Group met approximately 6 times/yr. between 1996 -1999
- Attendance at the meetings ranged from 15 to 75 people
- **Both FCC and FDA staff participated**
- DRAFT Standard was voted on in the summer of 2000
- After resolving comments, standard was reballoted by C63

ANSI-ASC C63 - C63.19

- C63.19 Standard was approved by C63 in late 2000
- Standard was announced in the ANSI Standards Action on November 3, 2000
  - In the ANSI Standards Action, comments are solicited from the public to ensure that views of all interested parties have been given full consideration.
- C63.19 Standard was published with a date of 8 October 2001

ANSI-ASC C63 – C63.19

- Current situation
  - Confusion and conflicting claims regarding requirements and effectiveness of the standard.
  - Lack of peer reviewed data relative to this issue.
  - Many innovative ideas have been suggested but no method exists for them to be objectively reviewed.

ANSI-ASC C63 – C63.19

- Purpose of Proposed Workshop
  - Present the Existing Standard
    - Clarify the test methods and requirements
    - Give an opportunity for discussion
    - Identify proposals for improvement
  - Opportunity to present data on current situation in a peer reviewed environment
  - Present proposals for innovation

ANSI-ASC C63 – C63.19

- Known Issues with Standard
  - Hearing Aid Immunity
    - Product Line Issue
    - Harmonization of GTEM & Dipole Test Methods (i.e. harmonization of C63.19 with IEC 118-13)
  - Phone Emissions
    - Need for testing in AMPS mode
  - Repeatability of tests
  - Time & therefore cost of tests

ANSI-ASC C63- C63.19

- Time and costs to perform the test?
  - One hour per hearing aid per frequency band per mode
    - Typical aid has 2 modes (microphone & T-Coil) but some have more
    - 2 frequency bands, 900 & 1900 MHz
  - Typical cost for testing lab - $150/hr
  - Special test “jigs” are required

ANSI-ASC C63- C63.19

- Time and costs to perform the test?
  - 6 tests required of phone:
    - RF Emissions
      - E-Field
      - H-Field
    - T-Coil
      - T-Coil signal amplitude
      - T-Coil signal frequency response
      - T-Coil signal to noise
    - Volume control range ??
  - Phone must be tested in each mode and frequency band
  - Standard test equipment EMC and Acoustic Testing is required

ANSI-ASC C63- C63.19

- Correlation between test results and performance experience?
  - University of Oklahoma experiments
  - Reports by practicing audiologists
  - New research being planned with Gallaudet

ANSI-ASC C63- C63.19

- Conclusion
  - Workshop needs an invitation from FCC
  - Time, Date & Location?
  - Develop Program